

# SEQUENCE LISTING

<110> BOUWSTRA, Jan Bastiaan  
YUZO, Toda

<120> Use of recombinant gelatin-like proteins as plasma expanders and compositions suitable for plasma substitution

<130> BOUWSTRA-3

<140> unknown

<141> unknown

<150> EP 02078745.3

<151> 2002-09-11

<160> 4

<170> PatentIn version 3.1

<210> 1

<211> 209

<212> PRT

<213> Artificial sequence

<220>

<223> Hu-1

<400> 1

Gly Pro Pro Gly Glu Pro Gly Pro Thr Gly Leu Pro Gly Pro Pro Gly  
1 5 10 15

Glu Arg Gly Gly Pro Gly Ser Arg Gly Phe Pro Gly Ala Asp Gly Val  
20 25 30

Ala Gly Pro Lys Gly Pro Ala Gly Glu Arg Gly Ser Pro Gly Pro Ala  
35 40 45

Gly Pro Lys Gly Ser Pro Gly Glu Ala Gly Arg Pro Gly Glu Ala Gly  
50 55 60

Leu Pro Gly Ala Lys Gly Leu Thr Gly Ser Pro Gly Ser Pro Gly Pro  
65 70 75 80

Asp Gly Lys Thr Gly Pro Pro Gly Pro Ala Gly Gln Asp Gly Arg Pro  
85 90 95

Gly Pro Pro Gly Pro Pro Gly Ala Arg Gly Gln Ala Gly Val Met Gly  
100 105 110

Phe Pro Gly Pro Lys Gly Ala Ala Gly Glu Pro Gly Lys Ala Gly Glu  
115 120 125

Arg Gly Val Pro Gly Pro Pro Gly Ala Val Gly Pro Ala Gly Lys Asp  
130 135 140

Gly Glu Ala Gly Ala Gln Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly  
145 150 155 160

Glu Arg Gly Glu Gln Gly Pro Ala Gly Ser Pro Gly Phe Gln Gly Leu  
165 170 175

Pro Gly Pro Ala Gly Pro Pro Gly Glu Ala Gly Lys Pro Gly Glu Gln  
180 185 190

Gly Val Pro Gly Asp Leu Gly Ala Pro Gly Pro Ser Gly Pro Ala Gly  
195 200 205

Gly

<210> 2  
<211> 617  
<212> PRT  
<213> Artificial sequence

<220>  
<223> Hu-3

<400> 2

Gly Pro Pro Gly Glu Pro Gly Pro Thr Gly Leu Pro Gly Pro Pro Gly  
1 5 10 15

Glu Arg Gly Gly Pro Gly Ser Arg Gly Phe Pro Gly Ala Asp Gly Val  
20 25 30

Ala Gly Pro Lys Gly Pro Ala Gly Glu Arg Gly Ser Pro Gly Pro Ala  
35 40 45

Gly Pro Lys Gly Ser Pro Gly Glu Ala Gly Arg Pro Gly Glu Ala Gly  
50 55 60

Leu Pro Gly Ala Lys Gly Leu Thr Gly Ser Pro Gly Ser Pro Gly Pro  
65 70 75 80

Asp Gly Lys Thr Gly Pro Pro Gly Pro Ala Gly Gln Asp Gly Arg Pro  
85 90 95

Gly Pro Pro Gly Pro Pro Gly Ala Arg Gly Gln Ala Gly Val Met Gly  
100 105 110

Phe Pro Gly Pro Lys Gly Ala Ala Gly Glu Pro Gly Lys Ala Gly Glu  
115 120 125

Arg Gly Val Pro Gly Pro Pro Gly Ala Val Gly Pro Ala Gly Lys Asp  
130 135 140

Gly Glu Ala Gly Ala Gln Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly  
145 150 155 160

Glu Arg Gly Glu Gln Gly Pro Ala Gly Ser Pro Gly Phe Gln Gly Leu  
165 170 175

Pro Gly Pro Ala Gly Pro Pro Gly Glu Ala Gly Lys Pro Gly Glu Gln  
180 185 190

Gly Val Pro Gly Asp Leu Gly Ala Pro Gly Pro Ser Gly Pro Ala Gly  
195 200 205

Glu Pro Gly Pro Thr Gly Leu Pro Gly Pro Pro Gly Glu Arg Gly Gly  
210 215 220

Pro Gly Ser Arg Gly Phe Pro Gly Ala Asp Gly Val Ala Gly Pro Lys  
225 230 235 240

Gly Pro Ala Gly Glu Arg Gly Ser Pro Gly Pro Ala Gly Pro Lys Gly  
245 250 255

Ser Pro Gly Glu Ala Gly Arg Pro Gly Glu Ala Gly Leu Pro Gly Ala  
260 265 270

Lys Gly Leu Thr Gly Ser Pro Gly Ser Pro Gly Pro Asp Gly Lys Thr  
275 280 285

Gly Pro Pro Gly Pro Ala Gly Gln Asp Gly Arg Pro Gly Pro Pro Gly  
290 295 300

Pro Pro Gly Ala Arg Gly Gln Ala Gly Val Met Gly Phe Pro Gly Pro  
305 310 315 320

Lys Gly Ala Ala Gly Glu Pro Gly Lys Ala Gly Glu Arg Gly Val Pro  
325 330 335

Gly Pro Pro Gly Ala Val Gly Pro Ala Gly Lys Asp Gly Glu Ala Gly  
340 345 350

Ala Gln Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly Glu Arg Gly Glu  
355 360 365

Gln Gly Pro Ala Gly Ser Pro Gly Phe Gln Gly Leu Pro Gly Pro Ala  
370 375 380

Gly Pro Pro Gly Glu Ala Gly Lys Pro Gly Glu Gln Gly Val Pro Gly  
385 390 395 400

Asp Leu Gly Ala Pro Gly Pro Ser Gly Pro Ala Gly Glu Pro Gly Pro  
405 410 415

Thr Gly Leu Pro Gly Pro Pro Gly Glu Arg Gly Gly Pro Gly Ser Arg  
420 425 430

Gly Phe Pro Gly Ala Asp Gly Val Ala Gly Pro Lys Gly Pro Ala Gly  
435 440 445

Glu Arg Gly Ser Pro Gly Pro Ala Gly Pro Lys Gly Ser Pro Gly Glu  
450 455 460

Ala Gly Arg Pro Gly Glu Ala Gly Leu Pro Gly Ala Lys Gly Leu Thr  
465 470 475 480

Gly Ser Pro Gly Ser Pro Gly Pro Asp Gly Lys Thr Gly Pro Pro Gly  
485 490 495

Pro Ala Gly Gln Asp Gly Arg Pro Gly Pro Pro Gly Pro Pro Gly Ala  
500 505 510

Arg Gly Gln Ala Gly Val Met Gly Phe Pro Gly Pro Lys Gly Ala Ala  
515 520 525

Gly Glu Pro Gly Lys Ala Gly Glu Arg Gly Val Pro Gly Pro Pro Gly  
530 535 540

Ala Val Gly Pro Ala Gly Lys Asp Gly Glu Ala Gly Ala Gln Gly Pro  
545 550 555 560

Pro Gly Pro Ala Gly Pro Ala Gly Glu Arg Gly Glu Gln Gly Pro Ala  
565 570 575

Gly Ser Pro Gly Phe Gln Gly Leu Pro Gly Pro Ala Gly Pro Pro Gly  
580 585 590

Glu Ala Gly Lys Pro Gly Glu Gln Gly Val Pro Gly Asp Leu Gly Ala  
595 600 605

Pro Gly Pro Ser Gly Pro Ala Gly Gly  
610 615

<210> 3  
<211> 821  
<212> PRT  
<213> Artificial sequence

<220>  
<223> Hu-4

<400> 3

Gly Pro Pro Gly Glu Pro Gly Pro Thr Gly Leu Pro Gly Pro Pro Gly  
1 5 10 15

Glu Arg Gly Gly Pro Gly Ser Arg Gly Phe Pro Gly Ala Asp Gly Val  
20 25 30

Ala Gly Pro Lys Gly Pro Ala Gly Glu Arg Gly Ser Pro Gly Pro Ala  
35 40 45

Gly Pro Lys Gly Ser Pro Gly Glu Ala Gly Arg Pro Gly Glu Ala Gly  
50 55 60

Leu Pro Gly Ala Lys Gly Leu Thr Gly Ser Pro Gly Ser Pro Gly Pro  
65 70 75 80

Asp Gly Lys Thr Gly Pro Pro Gly Pro Ala Gly Gln Asp Gly Arg Pro  
85 90 95

Gly Pro Pro Gly Pro Pro Gly Ala Arg Gly Gln Ala Gly Val Met Gly  
100 105 110

Phe Pro Gly Pro Lys Gly Ala Ala Gly Glu Pro Gly Lys Ala Gly Glu  
115 120 125

Arg Gly Val Pro Gly Pro Pro Gly Ala Val Gly Pro Ala Gly Lys Asp  
130 135 140

Gly Glu Ala Gly Ala Gln Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly  
145 150 155 160

Glu Arg Gly Glu Gln Gly Pro Ala Gly Ser Pro Gly Phe Gln Gly Leu  
165 170 175

Pro Gly Pro Ala Gly Pro Pro Gly Glu Ala Gly Lys Pro Gly Glu Gln  
180 185 190

Gly Val Pro Gly Asp Leu Gly Ala Pro Gly Pro Ser Gly Pro Ala Gly  
195 200 205

Glu Pro Gly Pro Thr Gly Leu Pro Gly Pro Pro Gly Glu Arg Gly Gly  
210 215 220

Pro Gly Ser Arg Gly Phe Pro Gly Ala Asp Gly Val Ala Gly Pro Lys  
225 230 235 240

Gly Pro Ala Gly Glu Arg Gly Ser Pro Gly Pro Ala Gly Pro Lys Gly  
245 250 255

Ser Pro Gly Glu Ala Gly Arg Pro Gly Glu Ala Gly Leu Pro Gly Ala  
260 265 270

Lys Gly Leu Thr Gly Ser Pro Gly Ser Pro Gly Pro Asp Gly Lys Thr  
275 280 285

Gly Pro Pro Gly Pro Ala Gly Gln Asp Gly Arg Pro Gly Pro Pro Gly  
290 295 300

Pro Pro Gly Ala Arg Gly Gln Ala Gly Val Met Gly Phe Pro Gly Pro  
305 310 315 320

Lys Gly Ala Ala Gly Glu Pro Gly Lys Ala Gly Glu Arg Gly Val Pro  
325 330 335

Gly Pro Pro Gly Ala Val Gly Pro Ala Gly Lys Asp Gly Glu Ala Gly  
340 345 350

Ala Gln Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly Glu Arg Gly Glu  
355 360 365

Gln Gly Pro Ala Gly Ser Pro Gly Phe Gln Gly Leu Pro Gly Pro Ala  
370 375 380

Gly Pro Pro Gly Glu Ala Gly Lys Pro Gly Glu Gln Gly Val Pro Gly  
385 390 395 400

Asp Leu Gly Ala Pro Gly Pro Ser Gly Pro Ala Gly Glu Pro Gly Pro  
405 410 415

Thr Gly Leu Pro Gly Pro Pro Gly Glu Arg Gly Gly Pro Gly Ser Arg  
420 425 430

Gly Phe Pro Gly Ala Asp Gly Val Ala Gly Pro Lys Gly Pro Ala Gly  
435 440 445

Glu Arg Gly Ser Pro Gly Pro Ala Gly Pro Lys Gly Ser Pro Gly Glu  
450 455 460

Ala Gly Arg Pro Gly Glu Ala Gly Leu Pro Gly Ala Lys Gly Leu Thr  
465 470 475 480

Gly Ser Pro Gly Ser Pro Gly Pro Asp Gly Lys Thr Gly Pro Pro Gly  
485 490 495

Pro Ala Gly Gln Asp Gly Arg Pro Gly Pro Pro Gly Pro Pro Gly Ala  
500 505 510

Arg Gly Gln Ala Gly Val Met Gly Phe Pro Gly Pro Lys Gly Ala Ala  
515 520 525

Gly Glu Pro Gly Lys Ala Gly Glu Arg Gly Val Pro Gly Pro Pro Gly  
530 535 540

Ala Val Gly Pro Ala Gly Lys Asp Gly Glu Ala Gly Ala Gln Gly Pro

545		550		555		560
Pro Gly Pro Ala Gly Pro Ala Gly Glu Arg Gly Glu Gln Gly Pro Ala	565		570		575	
Gly Ser Pro Gly Phe Gln Gly Leu Pro Gly Pro Ala Gly Pro Pro Gly	580		585		590	
Glu Ala Gly Lys Pro Gly Glu Gln Gly Val Pro Gly Asp Leu Gly Ala	595		600		605	
Pro Gly Pro Ser Gly Pro Ala Gly Glu Pro Gly Pro Thr Gly Leu Pro	610		615		620	
Gly Pro Pro Gly Glu Arg Gly Gly Pro Gly Ser Arg Gly Phe Pro Gly	625		630		635	640
Ala Asp Gly Val Ala Gly Pro Lys Gly Pro Ala Gly Glu Arg Gly Ser	645		650		655	
Pro Gly Pro Ala Gly Pro Lys Gly Ser Pro Gly Glu Ala Gly Arg Pro	660		665		670	
Gly Glu Ala Gly Leu Pro Gly Ala Lys Gly Leu Thr Gly Ser Pro Gly	675		680		685	
Ser Pro Gly Pro Asp Gly Lys Thr Gly Pro Pro Gly Pro Ala Gly Gln	690		695		700	
Asp Gly Arg Pro Gly Pro Pro Gly Pro Pro Gly Ala Arg Gly Gln Ala	705		710		715	720
Gly Val Met Gly Phe Pro Gly Pro Lys Gly Ala Ala Gly Glu Pro Gly	725		730		735	
Lys Ala Gly Glu Arg Gly Val Pro Gly Pro Pro Gly Ala Val Gly Pro	740		745		750	
Ala Gly Lys Asp Gly Glu Ala Gly Ala Gln Gly Pro Pro Gly Pro Ala	755		760		765	
Gly Pro Ala Gly Glu Arg Gly Glu Gln Gly Pro Ala Gly Ser Pro Gly	770		775		780	



Phe Gln Gly Leu Pro Gly Pro Ala Gly Pro Pro Gly Glu Ala Gly Lys  
785 790 795 800

Pro Gly Glu Gln Gly Val Pro Gly Asp Leu Gly Ala Pro Gly Pro Ser  
805 810 815

Gly Pro Ala Gly Gly  
820

<210> 4  
<211> 544  
<212> PRT  
<213> Artificial sequence

<220>  
<223> Hu-deam

<400> 4

Gly Ser Glu Gly Pro Glu Gly Val Arg Gly Glu Pro Gly Pro Pro Gly  
1 5 10 15

Pro Ala Gly Ala Ala Gly Pro Ala Gly Asp Pro Gly Ala Asp Gly Glu  
20 25 30

Pro Gly Ala Lys Gly Ala Asp Gly Ala Pro Gly Ile Ala Gly Ala Pro  
35 40 45

Gly Phe Pro Gly Ala Arg Gly Pro Ser Gly Pro Glu Gly Pro Gly Gly  
50 55 60

Pro Pro Gly Pro Lys Gly Asp Ser Gly Glu Pro Gly Ala Pro Gly Ser  
65 70 75 80

Lys Gly Asp Thr Gly Ala Lys Gly Glu Pro Gly Pro Val Gly Val Glu  
85 90 95

Gly Pro Pro Gly Pro Ala Gly Glu Glu Gly Lys Pro Gly Ala Arg Gly  
100 105 110

Glu Pro Gly Pro Thr Gly Leu Pro Gly Pro Pro Gly Glu Arg Gly Gly  
115 120 125

Pro Gly Ser Arg Gly Phe Pro Gly Ala Asp Gly Val Ala Gly Pro Lys

130

135

140

Gly Pro Ala Gly Glu Arg Gly Ser Pro Gly Pro Ala Gly Pro Lys Gly  
145 150 155 160

Ser Pro Gly Glu Ala Gly Arg Pro Gly Glu Ala Gly Leu Pro Gly Ala  
165 170 175

Lys Gly Leu Thr Gly Ser Pro Gly Ser Pro Gly Pro Asp Gly Lys Thr  
180 185 190

Gly Pro Pro Gly Pro Ala Gly Glu Asp Gly Arg Pro Gly Pro Pro Gly  
195 200 205

Pro Pro Gly Ala Arg Gly Glu Ala Gly Val Met Gly Phe Pro Gly Pro  
210 215 220

Lys Gly Ala Ala Gly Glu Pro Gly Lys Ala Gly Glu Arg Gly Val Pro  
225 230 235 240

Gly Pro Pro Gly Ala Val Gly Pro Ala Gly Lys Asp Gly Glu Ala Gly  
245 250 255

Ala Glu Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly Glu Arg Gly Glu  
260 265 270

Glu Gly Pro Ala Gly Ser Pro Gly Phe Glu Gly Leu Pro Gly Pro Ala  
275 280 285

Gly Pro Pro Gly Glu Ala Gly Lys Pro Gly Glu Glu Gly Val Pro Gly  
290 295 300

Asp Leu Gly Ala Pro Gly Pro Ser Gly Ala Arg Gly Glu Pro Gly Phe  
305 310 315 320

Pro Gly Glu Arg Gly Val Glu Gly Pro Pro Gly Pro Ala Gly Pro Pro  
325 330 335

Gly Ala Asp Gly Ala Pro Gly Asp Asp Gly Ala Lys Gly Asp Ala Gly  
340 345 350

Ala Pro Gly Ala Pro Gly Ser Glu Gly Ala Pro Gly Leu Glu Gly Met  
355 360 365

Pro Gly Glu Arg Gly Ala Ala Gly Leu Pro Gly Pro Lys Gly Asp Arg  
370 375 380

Gly Asp Ala Gly Pro Lys Gly Ala Asp Gly Ser Pro Gly Lys Asp Gly  
385 390 395 400

Val Arg Gly Leu Thr Gly Pro Ile Gly Pro Pro Gly Pro Ala Gly Ala  
405 410 415

Pro Gly Asp Lys Gly Glu Ser Gly Pro Ser Gly Pro Ala Gly Pro Thr  
420 425 430

Gly Ala Arg Gly Ala Pro Gly Asp Arg Gly Glu Pro Gly Pro Pro Gly  
435 440 445

Pro Ala Gly Phe Ala Gly Pro Pro Gly Ala Asp Gly Glu Pro Gly Ala  
450 455 460

Lys Gly Glu Pro Gly Asp Ala Gly Ala Lys Gly Asp Ala Gly Pro Pro  
465 470 475 480

Gly Pro Ala Gly Pro Ala Gly Pro Pro Gly Pro Ile Gly Asp Val Gly  
485 490 495

Ala Pro Gly Ala Lys Gly Ala Arg Gly Ser Ala Gly Pro Pro Gly Ala  
500 505 510

Thr Gly Phe Pro Gly Ala Ala Gly Arg Val Gly Pro Pro Gly Pro Ser  
515 520 525

Gly Asp Ala Gly Pro Pro Gly Pro Pro Gly Pro Ala Gly Lys Glu Gly  
530 535 540